Unsuspected Carcinoma Found Histologically After Minor Anorectal Operations

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■ *The unsatisfactory results of radical operations in advanced anal cancer could be bettered by earlier diagnosis of the malignant lesion. The possibility of cancer should always be kept in mind when treating any of the common chronic anal diseases. Preliminary biopsy studies should be done more frequently if suspicious lesions are present and all tissues removed during minor anorectal operations should always be examined by a pathologist. Each surgical specimen should be labeled to show the site from which it was removed. Follow-up care of the patient would be simplified if the exact site of cancer origin could be identified.*

A recent ten-year survey of minor anorectal surgical procedures at the University of California Medical Center showed clinically unsuspected anal cancer found in 2 per cent of cases on tissue examination by the pathologist. The cancers were generally early and of the keratinizing squamous cell and nonkeratinizing varieties.

ANAL CANCER is relatively uncommon; it accounts for less than 1 per cent of all the malignant lesions that afflict the body. The prognosis is still unsatisfactory for the patient with an advanced anal cancer, despite radical surgical excision including extended lymphadenectomy. The results would be improved if diagnosis could be made earlier, before the malignant anal lesion becomes invasive. Often the lesion is not recognized promptly, possibly because of the infrequency of anal cancer, but usually because early lesions are masked by the more prominent, common, benign anorectal disease.

Clinically unsuspected malignant changes have been found postoperatively in specimens obtained at hemorrhoidectomy, anal fistulectomy and fissurectomy, and from excised anal condylomata. Early anal cancers will be found more frequently before they become disseminated if we keep in mind the possibility of cancer in all patients with long-standing chronic anal disease, if we routinely obtain preliminary biopsy studies of any suspicious area, and if we submit all excised anal tissues for pathologic examination to detect possible malignant changes.[1-18]

A recent study was made at the University of California Medical Center of all patients operated on for minor anorectal disease during the period 1954 to 1965 (Table 1). On pathologic examination of the surgical specimens, undiagnosed anal canal and perianal cancers were found in 2 per cent of these cases. The cancers were generally early growths and included squamous cell, columnar cell, and cloacogenic tumors. Bowen's and Paget's disease have also been found in postoperative tissues.[5-7] Other surveys have shown a similar incidence of cancer not detected until minor operation was done.[3,4,18]

Published reports have indicated an association between the common chronic benign anorectal diseases with attending infection, and the subsequent

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TABLE 1.—*Unsuspected Anal Cancers Found After Minor Operation, University of California Medical Center, 1954-1964*

	No. of Cases	Squamous Cell	Columnar Cell	Cloacogenic Cancer	Basal Cell	Carcinoma, Varied Type: Bowen's Disease	Carcinoma, Varied Type: Paget's Disease
Hemorrhoidectomy	526	4	1	3	0	1	1
Anal Fissurectomy	64	0	0	1	0	0	0
Anal Fistulectomy	63	1	0	1	0	0	0
Totals	653	5	1	5	0	1	1

anal cancer development of various types. This association has been noted in chronic infected anorectal fistulas and sinuses, lymphopathia venereum, condylomatas and other long-standing perianal and anal canal lesions.[2,10,12,13,15-17] Proof of this relationship cannot always be completely established.[1]

The following representative case reports illustrate some of the problems encountered in cases in which clinically unsuspected cancers were found by the pathologist after minor anorectal surgical procedures.

Reports of Cases

CASE 1.—A 42-year-old Negro woman had hemorrhoidectomy in March 1962 for chronic prolapsing hemorrhoids which had been causing increasing disability. An indurated component was present in the right anterior prolapsing hemorrhoid, but preliminary biopsy was not done. Radical ligature and excision hemorrhoidectomy was performed and the hemorrhoids were dissected to the anal sphincters. The pathologic diagnosis of the excised right anterior hemorrhoid was keratinizing squamous cell cancer with local invasion into the subcutaneous tissues (Figure 1). The right anterior wound bed was then revised in width and depth, and the subjacent anal sphincter muscles were excised. Pathologic examination of the new specimen showed no residual malignant changes. No recurrence was noted on continued observation of the wound site. (Last examined in December 1966.)

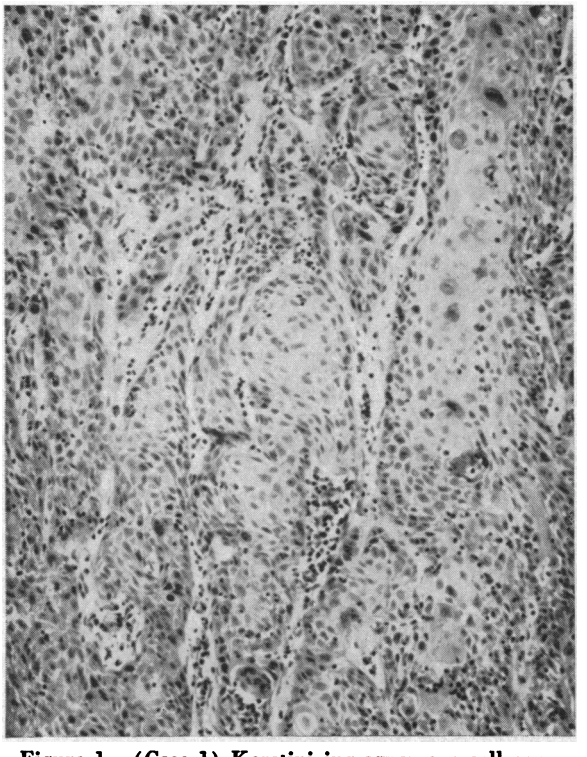

Figure 1.—(Case 1) Keratinizing squamous cell cancer with epithelial pearl formation found in an excised hemorrhoid (×300).

Figure 2.—(Case 2) Excised hemorrhoid showing leukoplakic changes and squamous cell anaplasia with dermal invasion (×125).

CASE 2.—A 53-year-old white woman had chronic prolapsing bleeding hemorrhoids for more than six years. Proctologic examination in November 1962 showed advanced hemorrhoidal disease with diffuse leukoplakic surface changes. A preliminary biopsy was not done. Ligature and excision hemorrhoidectomy was performed. Three unmarked surgical specimens showing leukoplakic surface changes were given to the pathologist for examination. There was a single area of epidermal squamous cell anaplasia with a poorly defined basal cell layer and dermal invasion in one of the specimens (Figure 2). The exact site of cancer origin could not be determined. A consultation was held and examination of the fresh wound sites showed normal postoperative tissue reaction without any gross evidence of malignant change. Inguinal nodes were palpable in both groins. The original anal wounds were then widely extended, leaving only narrow anterior and posterior anorectal bridges. The palpable inguinal nodes were removed for examination and all excised tissues were tagged for identification. One of the excised lateral segments showed residual cancer *in situ*. The lymph nodes showed only nonspecific hyperplasia without cancer. The patient was examined regularly thereafter and there was no evidence of recurrence. (Last examined in December 1966.)

CASE 3.—A 54-year-old woman had a St. Mark's ligature and excision hemorrhoidectomy in May 1964. The preliminary proctologic examination had been reported to be negative except for advanced hemorrhoidal disease. Postoperative examination of the tissues showed an area of intraepidermal junctional cloacogenic cancer of transitional cell type in one of the three surgical specimens (Figure 3). The site of origin of the cancer could not be determined because the specimens had not been tagged. After consultation it was decided to keep the patient under observation rather than to revise all of the wounds. There has been no evidence of recurrence of cancer up to this time (December 1966).

CASE 4.—An 83-year-old woman was admitted to hospital in January 1965 because of severe recurrent anorectal bleeding and pronounced anemia. The proctologic diagnosis was chronic advanced hemorrhoidal disease and rectal mucosal prolapse. Previous sclerotherapy had been ineffective in controlling the bleeding. Radical hemorrhoidectomy was decided against because of the patient's age, and the pronounced deficiency of the perineal body. The more active bleeding points were treated by transfixation ligatures, and the prolapsing rectum was put back into place. A redundant segment of anal skin that had a superficial ulcerated area 0.3 cm in diameter was then excised. The pathologic diagnosis was basal cell cancer of the anal skin (Figure 4). The excised skin margins were free from tumor cells. The patient has

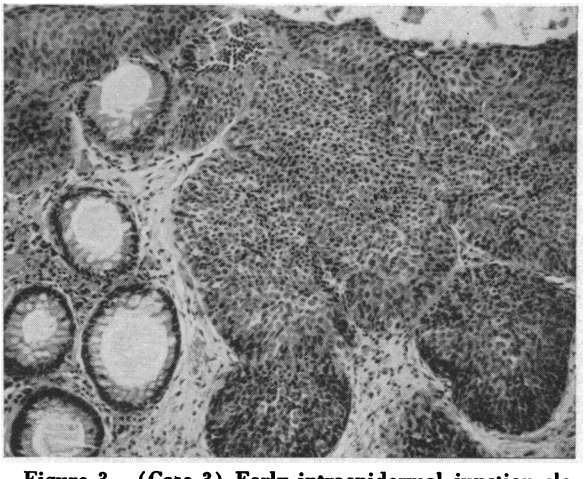

Figure 3.—(Case 3) Early intraepidermal junction cloacogenic transitional cell cancer discovered after hemorrhoidectomy (×125).

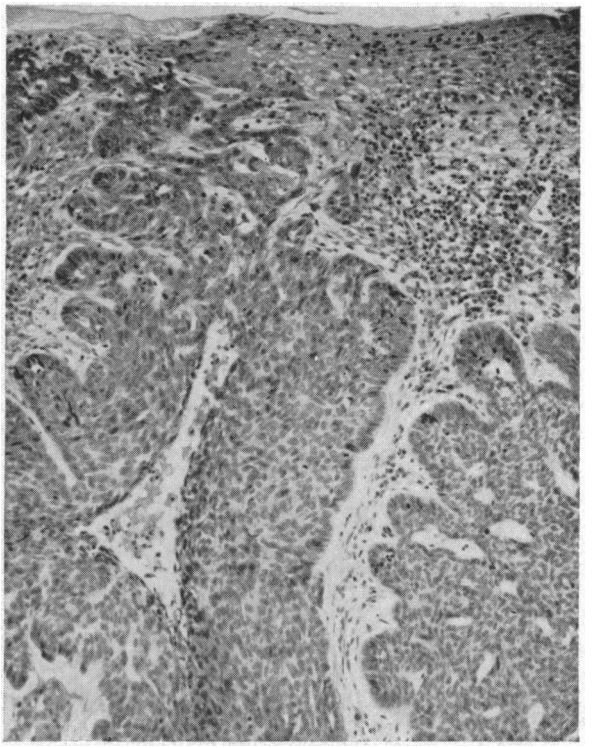

Figure 4.—(Case 4) Excised perianal skin segment showing ulceration and basal cell cancer (×300).

remained symptom-free. (Last examined in December 1966.)

CASE 5.—A 40-year-old white man was seen by a proctologist in December 1964 because of diffuse multiple condyloma accuminata involving the posterior third of the anal orifice. He had been treated surgically by another proctologist six months previously for anal warts in the same area. The warts had recurred quickly. Oral treatment with bismuth was poorly tolerated and did not control the condylomata. There was no mention of malignant changes in the report of the pathologic examination of the original surgical specimens.

The second procedure consisted of excision of the entire posterior warty anal mass. The pathologic diagnosis of the specimen was condyloma accuminata with an area of focal intraepithelial squamous cell cancer (Figure 5). Regular observation of the wound site is being continued for both condylomas and possible recurrence of cancer. (Last examined in December 1966.)

CASE 6.—A 47-year-old woman had recurrent anal fistula formations for more than five years and an anal fissure eventually developed. An excisional fistula-fissure operation was done in February 1960. A 4×7 cm segment of tissue was submitted for pathologic examination. The diagnosis was squamous cell cancer with focal invasion and extension into the lymph nodes. The patient was referred to the University of California Medical Center, where the original pathologic diagnosis was confirmed. In April 1960 an abdominoperineal resection was done. No residual squamous cell anal cancer or lymph node invasion was demonstrated. The patient has remained cancer free. (Last examined in December 1966.)

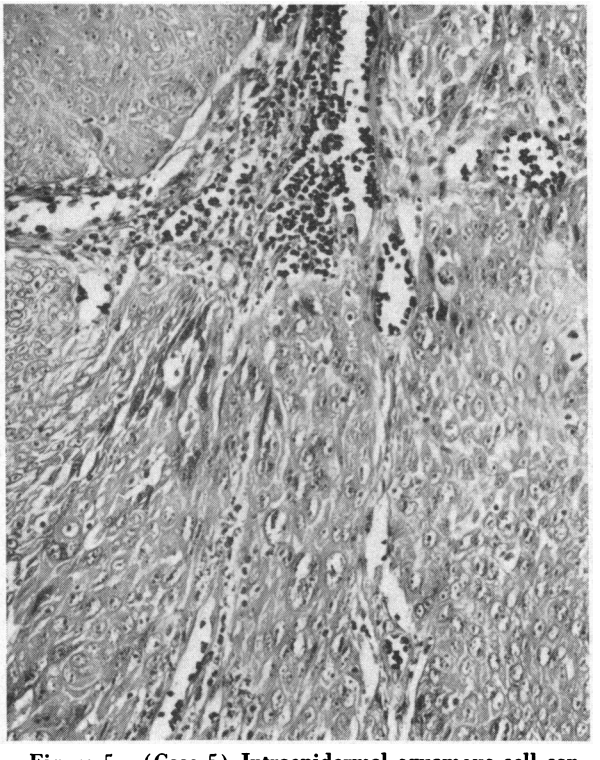

Figure 5.—(Case 5) Intraepidermal squamous cell cancer in anal condylomata (×300).

CASE 7.—A 48-year-old white man was seen in August 1961, 10 days after a posterior anal fissure had been excised. Routine pathologic examination of the excised tissue showed cloacogenic transitional cell cancer. Subsequent proctologic examination showed a normal appearing postoperative anorectal wound site. After consultation an abdominoperineal resection was done. Pathologic examination of the entire surgical specimen was negative for residual cancer except for a metastatic cloacogenic transitional cell cancer in a single mesorectal lymph node. There had been no recurrence to the time of most recent examination (December 1966).

Discussion

The possibility of malignant changes developing during the course of chronic benign anal disease, or of the presence of an early cancer being masked by the more conspicuous benign anal disease, should never be overlooked. Kuehn and coworkers[11] reviewed 157 cases of epidermoid cancer occurring in the anal canal or perianal region. The anal cancer had remained undetected in 37 cases for over six months. In 10 of the patients the diagnosis of anal cancer was not established until minor anorectal operations were done. Gordon[3] reviewed 1,890 surgical procedures done for hemorrhoids, fistula in ano, fissure in ano and other minor anorectal diseases. Microscopic examination of the postoperative tissues revealed previously unrecognized cancers in 1.1 per cent.[3] Tucker and Hellwig, in an analysis of 951 proctologic cases found clinically unrecognized cancers in 1.9 per cent.[18] Other observers[2,5-17] have also reported unsuspected anal cancers found by the pathologist after minor anorectal operations.

In a current ten-year survey of a total of 653 minor anorectal surgical cases at the University of California Medical Center, it was noted that 13 patients (2 per cent) had clinically unsuspected anal cancer. These lesions were discovered on

pathologic examination after operation for a common, seemingly benign anal disease. In the representative cases reported herein, postoperative microscopic examination also showed previously undiagnosed anal cancers in supposedly benign anorectal diseases. Cases 1, 2 and 6 illustrate the need for preliminary biopsy studies of all suspicious areas before any anal operation is performed. Cases 2 and 3 point up the importance of tagging postoperative tissue specimens individually, as an aid to current treatment and also for adequate follow-up care.

The relationship between chronic anorectal disease and cancer has not been completely documented. Buckwalter and Jurayj,[1] who made a statistical study of the subject, concluded that chronic benign long-standing anorectal disease, when associated with chronic infection, plays a definite role in the genesis of epidermoid cancer in some cases. Other investigators have also emphasized the possibility of cancer developing in long-standing untreated fistula in ano, in the chronic strictures of lymphopathia venereum, in condylomata and in other chronic anal diseases.[2,10,12,13,15-17] Early, complete extirpation of any chronic irritative anorectal disease would appear to be the most effective means of preventing later malignant changes. Anorectal fistulectomy is therefore a more complete and safer procedure than simple fistulotomy.

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